

# Researching change drivers and their implications for Vocational Education and Training

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## Abstract

In these times of relentless change, evidence-based research is a useful tool with which to analyse the future of education and training. There are a number of ways that VET organisations can undertake such research to meaningfully explore the myriad change drivers affecting our society, our culture and ultimately our education and training system. Swinburne's Strategic Planning Services bases its research on qualitative as well as quantitative data to define the major influences on its training design and profile delivery. Edited extracts from the change drivers and their implications for vocational educational and training from the Swinburne perspective are discussed in this paper.

## Introduction

*“Strategic foresight is about making wise decisions today by having an informed perspective on the future.” (De Simone, Serafino November 2003)*

Profound and inexorable change confronts each of us daily. Bob Dylan's famous words – “the times they are changing” have become the catch cry for the 21<sup>st</sup> century as change itself has emerged as the one constant in our lives.

Much of this change is being driven by new technology and its effects across the post-industrial globalised economy. Changes are occurring in rapid succession under the umbrella of globalisation affecting the economy, our industry and its practices, the nature of work and its organisation, how we communicate, our environment, our culture and ultimately, how we live as a society.

Increasingly, the future of work is being reshaped by this technology and the ensuing changes being driven through industry and into the economy. The VET sector's capacity to keep abreast of this change, and translate it into relevant, innovative training, will be influential in determining whether Australia's workforce has the capacity to compete at both the local and the international levels.

Clearly technology is a major driver of change, but it is only one of many convergent influences acting on our education and training systems. Identifying and understanding these drivers of change, their catalysts and how their impacts alter the environment in which we work is critical. This paper seeks briefly to outline the research we might undertake, the trends we may uncover and the implications for VET.

## ***The Importance of Futures Research and Trend Analysis***

*“Basing an organisation’s future direction on what has happened in the past will no longer deliver the required results”. (Morrow, Rowena, July 2002)*

The precise future is unknowable but broad research based on current trends can assist us to better understand probable futures and the implications for social and economic trends, patterns and dynamics. In previous decades, forecasts for the future were based largely on narrow, largely economic interpretations of what happened in the past. An example of these types of forecasts were those of the 1960’s predicting future numbers of births at a time when baby boomer births had hit their peak. Based on previous birth data the calculation was, naturally, that births would slowly continue to increase. The dramatic decrease in births was not foreseen as variables such as the effects of contraception, women entering the workforce, higher standards of education and the flow on effects of feminism were not taken into account.

In the 21<sup>st</sup> century, the power of adequate research as a tool is becoming progressively more important as Governments in particular, eschew policy making on the run and move towards developing “evidence based” policy. Governments and educators do this with the understanding that thorough research needs to underpin training profile development and provide the evidence that is required for any changes to be effectively established.

### **Methodology**

Swinburne’s Strategic Planning Services based its initial grouping of the key change drivers on research previously conducted by the Victorian Office of Training and Further Education (OTTE). This process was then supplemented by reviewing external quantitative factors such as trends in demography, industry and the labour force at both the local and state levels. ABS 2001 Census statistics and local government websites were accessed for this information, as were ANZ reports on industry issues, Australian Jobsearch and DEWR websites, state government websites and general internet searches. In terms of researching changes and their effects at the social, cultural and environmental levels, information was sourced from newspapers such as The Age, The Financial Review, Business Review Weekly and reports from organisations such as the Business Council of Australia. Again, general internet searches on future trends proved useful. The process of analysing government policy across the education and training industry was assisted by accessing NCVET, ANTA, OTTE and Industry Skills Councils reports and websites. Finally, qualitative information was obtained by conducting dialogues with internal and external stakeholders about the drivers of change and the potential effects of these changes on education and training. The process of teasing out the implications of the probable changes was undertaken through brainstorming sessions and focus groups with selected people from within Swinburne. Edited examples of the change drivers identified by Strategic Planning Services and their likely impacts are provided as examples of the outcomes of this process.

## **Findings - Key change drivers and possible implications for VET during 2004-08**

### *Change driver 1 – The economic cycle*

Western society has moved from the ‘industrial age’, when wealth was largely created by manufacturing, to an ‘information age’ in which wealth is created by the development of information goods and services such as media, education and software. The domestic upturn that began in 2001/2002 has gathered momentum and offset a world recession, the war in Iraq, the war on terrorism and the drought. Increasing interest rates are creating a minor slowdown, with an easing in housing construction and reduced confidence inhibiting business investment. The manufacturing sector is likely to continue to decline over the five years to 2007-08. While still Australia’s largest industry sector (ahead of property and business services), manufacturing is now only the second-biggest employer (behind retailing). Strong growth in property and business services will see this sector overtake manufacturing as Australia’s largest industry sector over the next few years. (BIS Schrapnel, 2004)

### Probable consequences and responses

- Increased emphasis on the ‘knowledge economy’.
- Higher interest rates for the next 2 – 3 years at least, with some decline in business investment, possibly followed by some wage inflation.
- Continuing growth of the service sector, with a decline in ‘traditional’ manufacturing.
- Continuing increases in part-time and casual employment.
- Overall decrease in job numbers, but increased skill requirements.

### Possible impacts on the demand for VET

- Increased demand for training in knowledge management.
- Increased demand for training in a wide range of personal and corporate service areas.
- Increased demand for training in business and financial management.

### *Change driver 2 – Globalisation*

Globalisation of trade, coupled with radical changes in communications technology, increasingly blurs economic boundaries and accelerates cross-border economic, social and technological exchange. Some say that Australia provides a textbook case for the benefits of globalisation – for since tariffs were lowered during the 1980s, exports have soared, particularly in newly competitive industries such as manufacturing. Nevertheless, while manufacturing has doubled its share of Australia’s exports over the last 20 years, it faces an ongoing struggle to compete in the international marketplace. (BIS Schrapnel, 2004)

### Probable consequences and responses

- Changing industry structure to facilitate competition in global markets.
- Realignment with Asia, due to the emergence of China and India as new “superpowers”.
- Increased social, cultural and economic diversity within Australia.
- Increased industry networking with more cross-sectoral partnerships.
- Increased emphasis on sustaining cultural and community identity and strength.
- An increasing tendency for traditional manufacturing to move offshore.
- Increased use of e-business systems and e-commerce.

### Possible impacts on the demand for VET

- Increased demand for training in Asian languages.
- Increased demand for training in cross-cultural engagement and communication.
- Increased demand for training in international business/trade and e-business.
- Demand for community development training and leadership training.
- Increased organisational demand for training in diversity management.
- Increased need for teachers to keep up to date with developments in their fields through global communities of practice.
- Increased demand for training in e-business and e-commerce.

### *Change driver 3 – Aging population (Part 1 – general trends)*

Over the next 40 years, the population aged 45 plus will grow faster than the population aged under 44. The population aged 65 plus will increase as the baby-boomers reach retirement age. The eastern region of Melbourne currently reflects this trend – with half of the population aged over 35, a substantial decline in the 18–24 years cohort, and a commensurate increase in those aged 50 plus. (ABS, 2001)

### Probable consequences and responses

- Increased demand for health and community services.
- More sophisticated healthcare, and increased use of alternative medicines and modalities.
- Increased spending on diverse personal activities.
- Increased need for financial and retirement advice.
- Migration to centres with access to shops, services and other amenities.
- Growth in home renovation/extension, some to accommodate families with ageing relatives living semi-independently.
- More people who are time and asset rich, but cash poor.
- Change of marketing focus from youth to ageing baby boomers.
- Increase in superannuation and retirement options.
- Greater demand for fitness, hairdressing and beauty services/products.
- Growth of the service sector generally, and re-emergence of ‘customer service’.

## Possible impacts on the demand for VET

- Increased demand for training in health care and aged care.
- Increased need to train carers – some multi-lingual – that can multitask.
- Increased demand for training in various types of counselling
- Increased demand for ICT training for older people.
- Increased demand for training in the building trades.
- Increased demand for training in financial planning and debt management.
- Increased demand for training in travel and leisure specialisations.
- Increased demand for training in small business management for older people who wish to supplement a retirement income.
- Increased demand for training in online share trading/portfolio management.
- Increased demand for further education programs in such things as music, art, languages, philosophy, pottery, history, literature and crafts.
- Increased demand for volunteer training.
- Increased demand for customer service training, and for training related to customer relationship management (CRM) software.

### *Change driver 4 – Aging population*

#### *(Part 2 – productivity, employment and workplace trends)*

Projections suggest that the supply of workers will be insufficient to service future labour demand. The growth that will occur will centre on mature aged people. From 1982 to 1992, 68% of labour-force growth came from the 15– 24 age group. This fell to 28% over the past decade, and it is projected to fall to 15% over the next decade. Organisations can no longer rely on an increasing supply of new young entrants to the workforce each year. 75% of future workforce growth will come from the 45 plus years cohort. (Business, Work & Ageing, 2002)

## Probable consequences and responses

- Decreased productivity at national, state and local levels.
- Skill shortages in many sectors, with increased global, regional and domestic competition for skilled workers.
- Loss of corporate knowledge and skills as people retire.
- Complex OH&S issues arising from an older workforce and redesign of workplaces.
- Increased immigration by workers with requisite skills.
- Increased flexibility in working hours, and more part-time/casual work.

## Possible impacts on the demand for VET

- Increased demand for training in age audits, retirement transition and succession planning, corporate knowledge management and life/career coaching.
- Ongoing need to realign VET provision with skill shortages.
- Increased demand for second career training, retraining and reskilling in ICT.
- Increased demand for OH&S training.
- Increased demand for flexible VET delivery.

### *Change driver 5 – Decreasing birth rate*

The average life expectancy in Australia has increased significantly in recent years. At the same time, the average number of births has decreased from 3.3 in the 1960's to 1.8 today, with further decreases likely to be the pattern.

#### Probable consequences and responses

- Slowing demand for childcare and childhood development services.
- Smaller households, with older parents.
- More jobs available than there are workers, despite an increase in skilled immigration.
- Declining enrolments for pre-school, primary and secondary education providers.

#### Possible impacts on the demand for VET

- Slowing demand for training in childcare.
- Increased demand for training to upgrade the qualifications of migrant workers.
- Increased demand for English language training, sometimes customised to specific occupations, industries and technologies.
- Increased demand for the re-training of pre-school and primary school teachers.
- Increased demand for the re-training of older workers generally.

### *Change driver 6 – Technological change*

The scale and pace of technological change has been rapid over recent years. ICT capability has doubled every 2 years during the 1990s, and this phenomenon seems set to continue for at least the next decade. (BIS Schrapnel, 2004)

#### Probable consequences and responses

- Instant communication processes via the Internet and intranets.
- Greater uptake of technologies and molecular level manufacturing in many sectors.
- Integration and convergence of processes.
- Local development of a synchrotron.
- Increased development and use of highly specialised machinery and equipment.
- More sophisticated clinical and community-based health care.
- Increased skills and knowledge requirements for an aging workforce.
- Increased home-based business activity.

#### Possible impacts on the demand for VET

- Increased demand for training that is up-to-date and inclusive of recent technological advances.
- Increased demand for training that reflects convergence.
- Increased demand for training focussed on innovation, rather than on production.

- Increased demand for ‘just in time’ training that is flexible and well-targeted – especially in the workplace and customised to suit workplace requirements.
- Increased demand for training in e-business, especially for SMEs operating globally.
- Increased opportunities for training using virtual technologies.

#### *Change driver 7 – Protection of climate, environment & biodiversity*

The concept of sustainability is here to stay. Biodiversity management is also here to stay, with most efforts concentrated in more economically developed countries and areas of international significance elsewhere. The triple bottom line approach to business management and reporting underscores the environment’s interconnectedness with economies and cultures, and an increasing awareness that many resources are finite.

#### Probable consequences and responses

- Greater demand for organic foods and vegetables.
- Decreased use of fossil fuels, and increase of green power alternatives.
- More ‘environmentally benign’ manufacturing.
- Increased emphasis on energy efficiency and sustainability in building design and construction.
- Development of a ‘zero waste’ mentality.
- Increased use and sophistication of waste transfer centres.
- Increased use of more sustainable agricultural practices.
- Increased processing of grey water and sewage for commercial and agricultural use.
- Increased reliance on water desalination, especially by industry.
- Revegetation of urban and rural areas.
- Better management of forests, woodlands and other habitat types.
- Declines in the logging of sensitive areas.
- Increased efforts to conserve and manage bio-diversity.

#### Possible impacts on the demand for VET

- Increased demand for training in sustainable and ‘organic’ methods.
- Increased demand for training in renewable energy technologies.
- Changes to training for the building & construction industries.
- Increased demand for training in various aspects of water management.
- Increased demand for training in specialised areas of plumbing.
- Increased demand for training in waste minimisation, some of it compliance-related.
- Increased demand for training in design for sustainability.
- Increased demand for training in environmental auditing, monitoring and impact studies.
- Increased demand for the re-training of timber industry workers.
- Increased demand for training in natural resource management.
- Increased demand for training in sustainable business management.

### *Change driver 8 – Personal, business and world security*

Recent years have seen increased levels of terrorist activity, and a commensurate increase in security – internationally and domestically. The collapse of many corporations, including major insurance companies, has given focus to the financial security of business organisations and individuals. In Australia, bushfires ensure that asset security is a perennial issue.

#### Probable consequences and responses

- Increased security measures for government facilities, businesses and homes, and particularly at key infrastructure facilities such as airports, ports, power stations and major water storages.
- Increased coastal and customs surveillance.
- Increased security at major events.
- Increased focus on OH&S and other workplace safety issues related to diverse terrorist activities, especially for vulnerable groups such as baggage handlers, air crew, postal workers and security guards.
- Emphasis on planning and management for major disasters.
- Increased general surveillance and policing.
- Emphasis on risk management in business and project management.
- Increased focus on corporate governance for all organisations.
- Emphasis on asset security through fire management planning.

#### Possible impacts on the demand for VET

- Increased demand for security training.
- Increased demand for emergency services training.
- Increased demand for training in conflict management and resolution.
- Increased demand for training related to electronic home and business surveillance.
- Increased demand for training in critical incident and disaster planning/management.
- Increased demand for OH&S training.
- Increased demand for training in corporate governance.
- Increased demand for training in insurance and risk management.
- Increased demand for training in asset security planning and management.

### *Change driver 9 – Local infrastructure changes*

Some major infrastructure initiatives will affect the eastern region of Melbourne over the next 5 to 10 years. “Melbourne 2030” outlines a vision of a city based on a series of interconnected hubs or activity centres. Box Hill and Ringwood are two of the major activity centres proposed, around which would be clustered housing, transport, shopping, educational, government, entertainment, personal service and sporting facilities. The Mitcham-Frankston Tollway will also have an effect on the clustering of housing and business activity, allowing easier access for industry and individuals. (Department of Infrastructure, 2002)

### Probable consequences and responses

- Increased focus on natural and built urban environments.
- Rising land prices around activity centres.
- Limited growth potential in Eastern Metropolitan Area (37,000 people over the next 10 years compared with 143,000 in the Western Metropolitan Area).
- Ageing housing stock in older suburbs and more intense residential land use.
- Community villages close to amenities.
- Rezoning decisions, with traditional manufacturing industries locating further out.
- Triple bottom line approaches by local government.

### Possible impacts on the demand for VET

- Increased demand for training in landscape design and land management.
- Increased demand for training in waste minimisation and environmental monitoring.
- Increased demand for training in real estate.
- Increased demand for training in sustainability, including in triple bottom line management and reporting issues.
- Increased work with local government.

### *Change driver 10 – Government VET policy*

VET in Victoria is shaped by policy at both federal and state levels. At a federal level, the ANTA “*Shaping our Future*” policy and the training package agenda, and at a state level by “*Knowledge and Skills for the Innovation Economy* and OTTE’s priorities for VET funding. There is a strong emphasis on flexible workplace delivery, and a desire to align VET with Victoria’s economic priorities and employment opportunities. Both the State and Federal Governments emphasise the importance of VET for Indigenous communities. TAFE is being scrutinised, and there is a drive to meet emerging skill and training needs. There is a strong emphasis on innovative programs for young people, but a growing recognition of the importance of VET and further education for mature learners. The trend to ‘user pays’ seems inexorable.

### Probable consequences and responses

- More people completing post-compulsory education.
- Greater focus on programs to engage young learners, especially 15 – 21 year-olds.
- Increasing emphasis on programs that meet the needs of 55 plus learners.
- Increased emphasis on intersectoral pathways.
- Progressively increasing emphasis on ‘user pays’ for post-compulsory study, with a possible decline in participation by low socio-economic cohorts.
- Increased emphasis on Indigenous VET.
- Emphasis on program customisation, and fee-for-service short courses, to meet emerging skill needs.
- Increased demand for flexible delivery.

## Possible impacts on the demand for VET

- Increased demand for training programs to meet the needs of young learners, and particularly for feeder programs into further training in areas of skill shortage.
- Increased demand for programs designed to meet the needs of mature age learners.
- Increased demand for programs designed to meet the needs of Indigenous learners.
- Increased demand for intersectoral pathways, preferably involving 'guaranteed' access arrangements.
- Increased demand for program customisations, and new fee-for-service courses, designed to address emerging skill needs.
- Profile shifts in line with OTTE's VET priorities particularly related to apprenticeship delivery.
- Increased demand for training related to employability skills.
- Increased demand for flexible delivery options, including Internet-supported work-based and home-based delivery.
- Increased demand for educational 'partnerships' with industry, and an increased demand for high quality workplace delivery and assessment.
- Increased demand for assistance in 'negotiating the labour market', rather than 'career counselling'.

## Conclusion

Continuous rapid change dictates that education and training organisations interpret and respond to the external trends affecting not only the demand for training but also its design and delivery. Increasingly, this must take the form of evidence-based research to more accurately inform decisions about content, design and delivery of education and training programs. Such informed decision making must relate to both the external environment and the change drivers that influence and shape broader trends. The way in which educational institutions integrate this information into their strategic plans whilst remaining flexible and adaptive is the key issue. How they effectively transfer these changes into their training delivery is the next step, and the real challenge.

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